

CLAIM AMENDMENTS

1. (Withdrawn) A method for preparing a coating composition comprising:
 - (A) forming an aqueous-based mixture by combining:
 - (i) a first polymer comprising, as polymerized monomer units:
 - (a) 5 to 50 percent, based on weight of the first polymer, of a monoethylenically unsaturated monomer containing an acidic functional group selected from one or more of carboxylic, sulfonic and phosphonic groups;
 - (b) zero up to 60 percent, based on weight of the first polymer, of a (meth)acrylic monomer containing one or more pendant reactive functional groups selected from hydroxy, thiol, and amino groups;
 - (c) zero up to 70 percent, based on weight of the first polymer, of one or more vinylaromatic monomers;
 - (d) 15 to 90 percent, based on weight of the first polymer, of one or more (C₁-C₂₀)alkyl (meth)acrylate ester monomers; and
 - (e) zero up to 10 percent, based on weight of the first polymer, of one or more other copolymerizable monomers; and
 - (ii) a polyfunctional crosslinker agent comprising pendant functional groups selected from one or more of isocyanate, carbodiimide, aziridinyl and epoxy groups;
 - wherein, the first polymer has a number average molecular weight from greater than 50,000 up to 2,000,000; and the polyfunctional crosslinker agent is used in an amount sufficient to provide from 0.2 to 5 equivalents of pendant functional group per equivalent of corresponding pendant reactive functional group in the first polymer; and
 - (B) applying the aqueous-based mixture to a substrate.

2. (Withdrawn) The process of claim 1 wherein the first polymer comprises, as polymerized monomer units, 9 to 40 percent of the monoethylenically unsaturated monomer containing an acidic functional group, wherein the acidic functional group is a carboxyl group.
2. (Withdrawn) The process of claim 1 wherein the first polymer comprises, as polymerized units, from 2 to 40 percent of the (meth)acrylic monomer which is a hydroxy-functional monomer selected from one or more of hydroxyethyl methacrylate, hydroxyethyl acrylate, hydroxypropyl methacrylate and hydroxypropyl acrylate.
4. (Withdrawn) The process of claim 1 wherein the first polymer comprises, as polymerized units, from 2 to 40 percent of the (meth)acrylic monomer which is a amino-functional monomer selected from one or more of dimethylaminopropyl methacrylamide, dimethylaminopropyl acrylamide, dimethylaminoethyl methacrylate, dimethylaminoethyl acrylate, dimethylaminopropyl methacrylate and dimethylaminopropyl acrylate.
5. (Withdrawn) The process of claim 1 wherein the first polymer further comprises 1 to 75 percent, based on equivalents of carboxylic acid groups, of polyvalent metal ion.
6. (Withdrawn) The process of claim 1 further comprising adding to the aqueous-based mixture of step (A), part (ii), from 0.1 to 15 percent, based on weight of the aqueous-based mixture, of leveling agent.
7. (Withdrawn) The process of claim 1 wherein the pendant functional group of the polyfunctional crosslinker agent is an isocyanate group in an amount sufficient to provide from 0.2 to 5 equivalents of isocyanate group per equivalent of hydroxy or thiol functional group in the first polymer.

8. (Withdrawn) The process of claim 1 wherein the pendant functional group of the polyfunctional crosslinker agent is a carbodiimide group in an amount sufficient to provide from 0.2 to 5 equivalents of carbodiimide group per equivalent of carboxylic acid functional group in the first polymer.
9. The process of claim 1 wherein the pendant functional group of the polyfunctional crosslinker agent is an epoxy or aziridinyl group in an amount sufficient to provide from 0.2 to 5 equivalent of epoxy or aziridinyl group per equivalent of amino or thiol functional group in the first polymer.
10. (Currently Amended) An aqueous coating composition comprising:
 - (1) a first polymer comprising, as polymerized units:
 - (a) [[5 to 50]] 16 to 25 percent, based on the weight of the first polymer, of a monoethylenically unsaturated monomer containing an acidic functional group selected from one or more of carboxylic, sulfonic and phosphonic groups; and
 - (b) zero up to 60 percent, based on the weight of the first polymer, of a (meth)acrylic monomer containing one or more pendant reactive functional groups selected from hydroxy, thiol and amino groups; and
 - (c) zero up to 70 percent, based on the weight of the first polymer, of one or more vinyl aromatic monomers; and
 - (d) 15 to 90 percent, based on the weight of the first polymer, of one or more (C₁-C₂₀) alkyl (meth)acrylate ester monomers; and
 - (e) zero up to 10 percent, based on the weight of the first polymer, of one or more other copolymerizable monomers;
 - (1) a polyfunctional crosslinker agent comprising pendant functional groups selected from one or more of isocyanate, carbodiimide, aziridinyl and epoxy groups;

- (2) 0.1 to 15 percent, based on the weight of the aqueous coating composition, of coalescing agent;
- (3) zero up to 10 percent, based on the weight of the aqueous coating composition, of additives selected from one or more of waxes, surfactants, defoamers, leveling agents, alkali-soluble resins and plasticizers; and
- (4) 50 to 99 percent, based on the weight of the aqueous coating composition, of water;

wherein: the first polymer has a number average molecular weight from greater than 50,000 up to 2,000,000; the polyfunctional crosslinker agent is used in an amount sufficient to provide from 0.2 to 5 equivalents of pendant functional groups per equivalent of corresponding pendant reactive functional groups in the first polymer; the combined amount of (1) and (2) is from 10 to 90 percent, based on the weight of the aqueous coating composition; and the sum of (1), (2), (3), (4) and (5) percents add up to 100 percent.

11. (Withdrawn) The process of claim 1 wherein the first polymer is an emulsion polymer.
12. (Withdrawn) The process of claim 1 wherein the first polymer has a glass transition temperature from 25 to 90° C.
13. (Withdrawn) The process of claim 1 further comprising adding to the aqueous-based mixture of step (A), from 0.1 to 15 percent, based on the weight of the aqueous-based mixture, of coalescing agent.
14. (Withdrawn) The process of claim 6 wherein the polyvalent metal ion is selected from one or more of zinc, calcium, magnesium and zirconium.

15. (Withdrawn) A method for preparing a coating composition comprising:

(A) forming an aqueous-based mixture by combining:

(i) a first polymer comprising, as polymerized monomer units:

(a) 16 to 20 percent, based on weight of the first polymer, of a monoethylenically unsaturated monomer containing a carboxylic acid functional group;

(b) 3 to 15 percent, based on weight of the first polymer, of a (meth)acrylic monomer containing hydroxy functional groups;

(c) 20 to 50 percent, based on weight of the first polymer, of vinylaromatic monomer; and

(d) 25 to 45 percent, based on weight of the first polymer, of one or more (C₁-C₂₀)alkyl (meth)acrylate ester monomers; and

(ii) a polyfunctional crosslinker agent comprising isocyanate pendant functional groups;

wherein, the first polymer has a number average molecular weight from 200,000 up to 1,000,000; and the polyfunctional crosslinker agent is used in an amount sufficient to provide from 0.2 to 5 equivalents of pendant functional group per equivalent of corresponding pendant reactive functional group in the first polymer; and

(B) applying the aqueous-based mixture to a substrate.

Interview Pursuant to 37 C. F. R. §1.133

Applicants thank the Examiner for an interview of April 8, 2004. The prior art of record cited in the above mentioned Office Action, Nienhaus *et al.* (U. S. Pat. No. 5,670,600) and Nothnagel (European Pat. Publication No. EP 0 523 993 A1) was discussed with Examiner. Agreement was reached with the Examiner that 16 to 25 weight percent of monoethylenically unsaturated acid monomers, based on the weight of the first polymer, was not taught, disclosed or suggested by the prior art of record. Applicants have amended claim 10 to include the limitation.

Support for Amendments

Claim amendments are fully supported in the specification. Amendments to claim 10 of ethylenically unsaturated acid monomer content of 16 to 25 weight is found at page 6, lines 9-11. Applicants teach that acid levels of greater than 15% up to 25% are particularly preferred to enhance film removal and ease of film removal properties of the two-component coating compositions in floor test evaluations. Further support is found in Example 10 at page 29, lines 1-20.

Response to 35 U. S. C. §103(a) Rejection of Claim 10

Claim 10 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Nienhaus *et al.* (U. S. Pat. No. 5,670,600) in view of Nothnagel (European Pat. Publication No. EP 0 523 993 A1). Applicants respectfully traverse the rejection and contend the amendments made to independent claim 10 obviates the Examiner's rejection. Applicant have amended claim 10, incorporating the limitation that the amount of ethylenically unsaturated acid monomer is from 16 to 25 weight percent, based on the weight of the first polymer.

Applicants respectfully submit that all of the limitations of a claim must be taught in establishing a *prima facie* case of anticipation pursuant to 35 U. S. C. §103(a).

Nienhaus *et al.* does not teach the Applicants invention as to the amount of ethylenically unsaturated acid monomers (1-15 wt. %) or the number average molecular weight claimed by Applicants. Nienhaus *et al.* teaches polyurethane coating for automobile top coats, which are not intended to be removed. In contrast, the Applicants teach acrylic based floor coatings containing high levels of acid monomers for easy removability. Nothnagel teaches a water dispersible ammonium salt of an acrylic polymer that is formed in-situ with 100% of the carboxyl groups neutralized. No floor coatings are taught, disclosed or suggested and Applicants are not surprised. It is clear that such type of dispersions would not have utility as floor coatings in the Applicant's invention. Thus, independent claim 10 as amended is patentable over the prior art document of record. Applicants respectfully submit that the Examiner's arguments with respect to the §103(a) rejection have been obviated for amended claim 10.

If the Examiner finds that there are some remaining issues to be resolved, Applicants would appreciate the Examiner to grant them a discussion or another interview pursuant to 37 C. F. R. §1.133, to clarify any issues and to place the Application in better condition for allowance. Please charge any fees associated with this response to Deposit Account No. 18-1850. Applicants invite the Examiner to contact the undersigned to discuss any issues related to this application by telephone.

Respectfully submitted,



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